

CLAIMS:

1. An electronic device for controlling gas flow in a gas dryer, the device comprising:
 - 5 a housing;
 - an electronic control circuit mounted in the housing;
 - and
 - at least two electrically operated valves for controlling functions of the dryer,
 - 10 wherein said valves are provided with plugs or sockets that are adapted to co-operate with corresponding sockets or plugs in a wall of the housing electrically connected to the electronic circuit whereby the valves are mounted on, externally of, the housing and are electrically connected
 - 15 to the control circuit.
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2. A device according to claim 1 wherein the valves are each secured in an operative position on the housing.
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- 20 3. A device according to claim 1 wherein each valve is provided with DIN spade connectors thereon for location in corresponding sockets in the housing and for plugging into female DIN connectors on the electronic control circuit.

4. A device according to claim 1 wherein at least part of the housing is transparent.

5. A device according to claim 4 having one or more display devices that are viewable through the transparent part of the housing.

6. A device according to claim 1 wherein the housing includes a body portion and a lid which has a sealing fit thereon.

7. A device according to claim 1 incorporating three valves, a third one of which valves is for controlling drainage of liquid from a gas input to the dryer.

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8. A device according to claim 7 wherein said third valve provides a filter drain means that opens and closes in a pre-programmed time sequence so that filter bowls through which the moist input gas is fed to the dryer are regularly emptied.

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9. A device according to claim 1 having a two wire, volt free contact that changes state when the device detects a circuit fault or a fault in the solenoid operation, for triggering an alarm.

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10. A device according to claim 1 having a four core cable for operating the dryer in conjunction with the loading of a compressor such that, when the compressor goes 'off
5 load', the dryer stops the purge cycle immediately or after a predetermined time delay, and, when the compressor comes 'on load', the dryer starts up again.

11. A method of controlling the operation of a pressure
10 swing twin tower regenerative gas drier using an electronic device comprising:

a housing;

an electronic control circuit mounted in the housing;

and

15 at least two electrically operated valves for controlling functions of the dryer,
in which device said valves are provided with plugs or sockets that are adapted to co-operate with corresponding sockets or plugs in a wall of the housing electrically
20 connected to the electronic circuit so that the valves are mounted on, externally of, the housing and are electrically connected to the control circuit,
wherein at least one of the valves is associated with control of the flow of gas in each of the towers.

12. A method according to claim 11 wherein the device has three valves, a first one of said valves being for controlling the exhaust of a first tower that is at pressure, a second one of said valves being for control of a second tower that is at atmospheric pressure, and a third one of said valves being for controlling the drainage of liquid from the gas input to the dryer.